

# TECASON P MT black - Stock Shapes (rods, plates, tubes)

## Chemical Designation

PPSU (Polyphenylsulfone)

## Colour

black opaque

## Density

1.31 g/cm<sup>3</sup>

## Main features

- high thermal and mechanical capacity
- good heat deflection temperature
- hydrolysis and superheated steam resistant
- good impact strength
- high stiffness
- high strength
- good chemical resistance
- high gamma radiation resistance

## Target Industries

- medical technology
- mechanical engineering
- vacuum technology
- automotive industry

## Mechanical properties

	parameter	value	unit	norm	comment
Tensile strength	50mm/min	81	MPa	DIN EN ISO 527-2	
Modulus of elasticity (tensile test)	1mm/min	2300	MPa	DIN EN ISO 527-2	1)
Tensile strength at yield	50mm/min	81	MPa	DIN EN ISO 527-2	
Elongation at yield (tensile test)	50mm/min	7	%	DIN EN ISO 527-2	
Elongation at break (tensile test)	50mm/min	> 50	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	107	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	2300	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	18/30/66	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	2000	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	13	kJ/m <sup>2</sup>	DIN EN ISO 179-1eA	
Shore hardness	D	84		DIN EN ISO 868	

## Thermal properties

	parameter	value	unit	norm	comment
Glass transition temperature		218	°C	DIN EN ISO 11357	1)
Melting temperature		n.a.	°C	DIN EN ISO 11357	2)
Service temperature	short term	190	°C		3)
Service temperature	long term	170	°C		
Thermal expansion (CLTE)	23-60°C, long.	6	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	6	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Specific heat		1.1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.25	W/(K*m)	ISO 22007-4:2008	

## Electrical properties

	parameter	value	unit	norm	comment
surface resistivity	Silver electrode, 23°C, 12% r.h.	10 <sup>14</sup>	Ω	-	1)
volume resistivity	Silver electrode, 23°C, 12% r.h.	10 <sup>14</sup>	Ω*cm	-	2)
Dielectric strength	23°C, 50% r.h.	76	kV/mm	ISO 60243-1	3)
Resistance to tracking (CTI)	Platin electrode, 23°C, 50% r.h., solvent A	125	V	DIN EN 60112	

## Other properties

	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.1 / 0.2	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+	-		2)
Resistance to weathering		(+)	-		3)
Flammability (UL94)	listed (value at 0.79mm)	V0		DIN IEC 60695-11-10;	

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